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Yuichi YAMAGAMI et al., S.N. 09/704,434
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REMARKS

The application has been reviewed in light of the Office Action dated December 7, 2004. Claims 1-16 were pending. By this Amendment, new dependent claim 17 has been added. Accordingly, claims 1-17 are now pending, with claims 1, 6 and 14 being in independent form.

Claims 1-16 were rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-16 were rejected under 35 U.S.C. §101 as purportedly being directed to non-statutory subject matter.

The Office Action contends that the claims are indefinite because they recite an intended field of use.

Applicants disagree.

As an initial matter, recitation of field of use is an issue of whether said recitation has a limiting effect on the claim in which it is recited (for example, does the recitation serve to patentably distinguish the claimed subject matter from the prior art). See MPEP §2106.

Further, MPEP §2106 makes clear that the issue is whether such recitations require steps in a method claim to be performed or limit an apparatus or system claim to a particular structure.

Here, independent claim 1 recites in relevant part a method "... comprising the computer-implemented steps of: ... utilizing the computed differences in managing shipping charges", and independent claim 6 recites in relevant part a method "... comprising the steps of: ... utilizing said difference to manage shipping charge information".

Therefore, contrary to the contention in the Office Action, the recitations referenced in the Office Action are not recitations of field of use, and moreover do not render the claims indefinite.

Should the Examiner disagree therewith, it is respectfully requested that the Examiner specify where in the patent laws, rules or guidelines there is a basis for such disagreement.

Regarding the issues of utility and operativeness, the Examiner's attention is directed to the Federal Circuit opinion in State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F.3d 1368, 47 U.S.P.Q.2d 1596 (Fed.Cir. 1998) (a copy of which is attached hereto as **Exhibit A**), wherein the Federal Circuit stated that: "the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter, unless, of course, its operation does not produce a 'useful, concrete and tangible result'" [citing In re Alappat, 33 F.3d 1526, 1544, 31 U.S.P.Q.2D 1545, 1557 (Fed.Cir. 1994)]. Further, the Federal Circuit further stated that a machine (such as a computer) programmed with software produces a 'useful, concrete and tangible result', even if the useful result is expressed in numbers. In State Street Bank, a fund administrator (that is, a human being) monitors the data output by a programmed computer and based on human analysis of the output information manages financial services configuration of a portfolio. The patent claim in State Street Bank is a "data processing system for managing a financial services configuration of a portfolio". Thus, although the recited purpose is "managing a financial services configuration of a portfolio", the purpose is not achieved merely with the claimed system, but rather intervention of the human mind is required. The Federal Circuit held that such a claimed invention nevertheless met the utility requirement.

Similarly, the claimed invention here provides for computing useful information, that is, the difference between (i) first shipping charges related to actual charges by the shipping entity to the supplier for transportation of items by the shipping entity from the one or more actual supplier locations to the customer locations and (ii) second shipping charges related to shipping

charges for the items calculated by reference to charges applicable to shipment of the items to the customers from one or more virtual supplier locations that are different from the one or more actual supplier locations, and then utilizing the computed differences in managing shipping charges. The fact that managing shipping charges may involve human thought process is not an obstacle to meeting the requirement of 35 U.S.C. §101, as confirmed by State Street Bank. Indeed, In re Musgrave, 167 U.S.P.Q. 280 (C.C.P.A. 1970) cited on page 8 of the Office Action requires the same result.

Contrary to the contention in the Office Action, utilizing the computed differences in managing shipping charges is not a hypothetical mental exercise that merely manipulates an abstract idea. As pointed out in the application, the computed differences allow the supplier to manage and track the charges and costs to the supplier, such as for internal management, assessment, cost accounting, allocation, planning or other purposes (see application at, for example, page 3, lines 9-17, page 7, lines 20-24, and page 11, lines 1-3). For example, the computed differences can be used to determine overhead cost to the supplier (which can be passed on through pricing of goods) and/or, on a regular basis, update a fixed tack-on charge that is added to prices or shipping charges to the customers. Such purposes undisputably constitute a ‘useful, concrete and tangible result’ according to the standards established by the Federal Circuit.

Accordingly, withdrawal of the rejection under 35 U.S.C. §112 and withdrawal of the rejection under 35 U.S.C. §101 are requested.

Claim 1 was rejected under 35 U.S.C. §102(b) as purportedly anticipated by “TransCanada’s incentive-rate plan approved”, American Gas, vol. 78, no. 3 (06 April 1996) (“the American Gas reference”). Claim 1 was rejected under 35 U.S.C. §102(e) as purportedly

anticipated by U.S. Patent Appl. Publication No. 2002/0019759 of Arunapuram et al. Claims 2-16 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Arunapuram in view of the Background section of the application and Gerety, "Zone prices inaugurated for Reynolds division," American Metal Market, vol. 94, pg. 1 (14 November 1986).

Applicants have carefully considered the Examiner's comments and the cited art, and respectfully submit that claims 1, 6 and 14 are patentable over the cited art.

None of the cited references discloses computing differences between (a) first shipping charges by the shipping entity to the supplier for transportation of items by the shipping entity from the one or more actual supplier locations to the customer locations and (b) second shipping charges by the supplier to customers calculated by reference to charges applicable to shipment of the items to the customers from one or more virtual supplier locations that are different from the one or more actual supplier locations, and utilizing the computed differences in managing shipping charges, as provided by the claimed invention described in independent claims 1, 6 and 14.

The American Gas reference, as understood by Applicants, is directed to the accounting of costs in the pipeline business. The reference discusses the sharing of variances in projected revenue, by the pipeline company and shippers.

It is contended in the Office Action that the American Gas reference discloses looking at computed difference between estimated shipping cost and actual shipping costs, and that therefore the claimed invention is unpatentable.

Applicants disagree.

The American Gas reference discloses that assorted costs are tallied and compared to projected revenue (only one of several revenue sources is related to transportation). Contrary to

the contention in the Office Action, the American Gas reference does not disclose computing a difference between actual shipping cost and projected shipping revenue.

In any event, Applicants do not find a teaching or suggestion in the American Gas reference of computing differences between (a) first shipping charges by the shipping entity to the supplier for transportation of items by the shipping entity from the one or more actual supplier locations to the customer locations and (b) second shipping charges by the supplier to customers calculated by reference to charges applicable to shipment of the items to the customers from one or more virtual supplier locations that are different from the one or more actual supplier locations, and utilizing the computed differences in managing shipping charges, as provided by the claimed invention described in claim 1.

Arunapuram, as understood by Applicants, is directed to transportation planning and execution. Arunapuram discloses an electronic system for managing and planning shipping and transportation. The electronic system of Arunapuram decides when, where and how to transport the goods or products which are driven in part by minimizing cost. In meet the objective, the system of Arunapuram determines the cost of each transport option for each order and the lowest cost solution is selected. The incurred carrier cost is allocated to the corresponding order, and charged to the customer who placed the order.

However, unlike the context of the claimed invention wherein the charge to a customer by the supplier for shipping of an item is made without knowledge of the charge by the shipping entity to the supplier, the shipping charge of the shipping entity for an order is passed on to the customer who placed the order. Thus, Arunapuram does not embody the motivation for the claimed invention.

Moreover, Applicants do not find a teaching or suggestion in Arunapuram of computing

differences between (a) first shipping charges by the shipping entity to the supplier for transportation of items by the shipping entity from the one or more actual supplier locations to the customer locations and (b) second shipping charges by the supplier to customers calculated by reference to charges applicable to shipment of the items to the customers from one or more virtual supplier locations that are different from the one or more actual supplier locations, and utilizing the computed differences in managing shipping charges, as provided by the claimed invention described in independent claims 1, 6 and 14.

Should the Examiner disagree therewith, it is respectfully requested that the Examiner specify where in the cited reference there is a basis for such disagreement.

Gerety, as understood by Applicants, is directed to geographically zoned pricing structure for aluminum sheets, coil and plates, in order to account for differences in freight costs. However, Gerety does not cure the above-discussed deficiencies of the American Gas reference and Arunapuram.

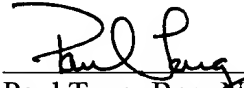
Since the cited reference, even when considered in combination, do not disclose or suggest all of the features of the claimed invention, the claims are allowable over the cited art.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Office is hereby authorized to charge any fees that may be required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Allowance of this application is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Paul Teng", is written over a horizontal line.

Paul Teng, Reg. No. 40,837
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In the trade name and trademark context we consistently have held that a plaintiff has a "reasonable likelihood for success on the merits," for purposes of a motion for preliminary injunctive relief if she has a "better than negligible" chance of succeeding on the merits." *Meridian*, 128 F.3d at 1114; quoting *International Kennel Club*, 846 F.2d at 1084. I believe the district court clearly erred in finding that Platinum Mortgage had no better than a negligible chance of success on the merits. Given the ignored evidence of actual confusion, the excessive weight placed on the length of time Platinum Mortgage has been in business, and the understatements regarding advertising expenditures and sales, I am left with a "definite and firm conviction that a mistake has been committed." *Anderson v. City of Bessemer*, 470 U.S. 564, 565 (1985), quoting *United States v. United States Gypsum Co.*, 333 U.S. 364, 395 [76 USPQ 430] (1948).

The majority correctly holds that given the district court's decision on likelihood of success its succinct discussion of the remaining factors to consider for injunctive relief was not inherently an abuse of discretion. Majority Op. at 12, citing *Ping v. National Educ. Ass'n*, 870 F.2d 1369, 1371 (7th Cir. 1989). Given my disagreement on the plaintiff's likelihood of demonstrating that it has a valid mark, I note that, while Platinum Mortgage articulated to this court reasons why the remaining considerations relevant to injunctive relief favored the granting of its requested injunction, Platinum Financial did not address these factors and thus it has waived at this stage any argument that those other factors support the district judge even if he erred on the likelihood of success. *Thomas & Betts Corp. v. Panduit Corp.*, 138 F.3d 277, 300 n.9 [46 USPQ2d 1026] (7th Cir. 1998). In my view, it is likely that Platinum Mortgage's name has been infringed given the similarity in name and business and the evidence of actual customer confusion, see *Meridian*, 128 F.3d at 1115 (listing factors relevant to infringement). The district court itself stated that it believed Platinum Mortgage lacked an adequate remedy at law and that the balance of harms favored it.

The district court thought that the public interest favored the defendant here because denying protection to Platinum Mortgage's trade name would somehow "preserve competition." But this reveals a fundamental misunderstanding of the way intellectual property rights like trademarks and trade names help the competitive process. There is nothing inherently anticompetitive about intellectual property rights, as courts and com-

mentators alike have come to recognize. E.g., *Qualitex*, 514 U.S. at 163-64; William M. Landes & Richard A. Posner, *Trademark Law: An Economic Perspective*, 30 J. L. & Econ. 265 (1987); United States Dept. of Justice & Federal Trade Commission, Antitrust Guidelines for the Licensing of Intellectual Property (Apr. 6, 1995). Companies need a way to capture their investments in good will and reputation, and one important way they do so is to develop a trade name. Free riding by a newcomer on the first company's name, and hence investment, does not help competition any more than competition is helped when free riders disrupt a manufacturer's distribution strategy. Finally, as we have recognized in the past, "in trademark infringement cases . . . the relevant consideration in determining whether the public interest will be disserved by the grant of an injunction is the consumer's interest in not being deceived about the products they purchased." *International Kennel Club*, 846 F.2d at 1092 n.8.

For these reasons, I believe that the district court's refusal to grant Platinum Mortgage its preliminary injunction was an abuse of discretion. I therefore respectfully dissent.

149 F.3d 1368

U.S. Court of Appeals
Federal Circuit

State Street Bank & Trust Co. v. Signature
Financial Group Inc.

No. 96-1327

Decided July 23, 1998

PATENTS

1. Patent construction — Claims — Means (§125.1307)

Means-plus-function claim for data processing system is directed to machine rather than process, since "machine" claims having "means" clauses may only be reasonably viewed as process claims if there is no supporting structure in written description that corresponds to claimed means elements, and since written description of patent in suit discloses specific structures corresponding to means-plus-function elements recited in claim at issue.

2. Patentability/Validity — Subject matter (§115.05)

Claimed system for implementing investment structure, which transforms data, representing discrete dollar amounts, by ma-

chine through series of mathematical calculations into final share price, constitutes practical application of mathematical algorithm, formula, or calculation, since it produces "a useful, concrete and tangible result," namely, final share price momentarily fixed for recording and reporting purposes.

3. Patent grant — Inventions patentable (§105.05)

Patentability/Validity — Subject matter (§115.05)

"Freeman-Walter-Abele" test, in which claim is analyzed to determine whether mathematical algorithm is directly or indirectly recited, and if so, whether algorithm is applied to "physical elements or process steps," has little, if any, applicability to determining presence of statutory subject matter, since process, machine, manufacture, or composition of matter employing law of nature, natural phenomenon, or abstract idea is patentable subject matter even though law of nature, natural phenomenon, or abstract idea would not, by itself, be entitled to such protection; mere fact that claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, would not, in and of itself, render invention non-statutory subject matter, unless its operation does not produce useful, concrete and tangible result.

4. Patent grant — Inventions patentable (§105.05)

Patentability/Validity — Subject matter (§115.05)

Question of whether claim encompasses statutory subject matter should not focus on which of four categories of subject matter enumerated in 35 USC 101 claim is directed to, but rather on essential characteristics of subject matter, in particular, its practical utility; in present case, claim directed to machine programmed with data processing software for administering investment structure produces useful, concrete, and tangible result, and therefore constitutes statutory subject matter, even though useful result is expressed in terms of numbers.

5. Patent grant — Inventions patentable (§105.05)

Patentability/Validity — Subject matter (§115.05)

Patent cannot be held invalid under 35 USC 101 pursuant to so-called "business method" exception to statutory subject mat-

ter, since business methods are subject to same legal requirements for patentability as any other process or method.

6. Patentability/Validity — Subject matter (§115.05)

Federal district court improperly held that claims invalid under 35 USC 101 on ground that they are so broadly drawn as to foreclose any computer-implemented accounting method necessary to manage particular type of financial structure, since whether claims are too broad to be patentable is not to be judged under Section 101, but rather under Sections 102, 103, and 112.

Particular patents — Electrical — Data processing

5,193,056, Boes, data processing system for hub and spoke financial services configuration, summary judgment of invalidity reversed.

Appeal from the U.S. District Court for the District of Massachusetts, Saris, J.; 38 USPQ2d 1530.

Action by State Street Bank & Trust Co. against Signature Financial Group Inc. for declaratory judgment of patent invalidity, unenforceability, and non-infringement, in which defendant counterclaimed for unfair and deceptive trade practices and declaration that plaintiff is bound by oral licensing agreement. From grant of partial summary judgment holding patent in suit invalid, defendant appeals. Reversed and remanded.

William L. Patton, James L. Sigel, and James S. DeGraw, of Ropes & Gray, of Boston, Mass.; Maurice E. Gauthier, of Samuels, Gauthier, Stevens & Reppert, Boston, for plaintiff-appellee.

Steven L. Friedman, of Dilworth, Paxson, Kalish & Kauffman, Philadelphia, Pa.; Steven J. Henry, of Wolf, Greenfield & Sacks, Boston; Philip G. Koenig, of Pittas Koenig, Winchester, Mass., for defendant-appellant.

William T. Ellis, Harold C. Wegner, Richard L. Schwaab, and Mary Michelle Kile, of Foley & Lardner, Washington, D.C.; John F. Cooney, of Venable, Baetjer, Howard & Civiletti, Washington, for amici curiae Information Technology Industry Council.

Robert C. Scheinfeld and Lawrence T. Kass, of Baker & Botts, New York, N.Y.; Laurie S. Hane, Donald S. Chisum, and Alan

L. Durham, of Morrison & Foerster, Palo Alto, Calif., for amicus curiae Mastercard International Service.

Before Rich, Plager, and Bryson, circuit judges.

Rich, J.

Signature Financial Group, Inc. (Signature) appeals from the decision of the United States District Court for the District of Massachusetts granting a motion for summary judgment in favor of State Street Bank & Trust Co. (State Street), finding U.S. Patent No. 5,193,056 (the '056 patent) invalid on the ground that the claimed subject matter is not encompassed by 35 U.S.C. § 101 (1994). See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 927 F. Supp. 502, 38 USPQ2d 1530 (D. Mass. 1996). We reverse and remand because we conclude that the patent claims are directed to statutory subject matter.

BACKGROUND

Signature is the assignee of the '056 patent which is entitled "Data Processing System for Hub and Spoke Financial Services Configuration." The '056 patent issued to Signature on 9 March 1993, naming R. Todd Boes as the inventor. The '056 patent is generally directed to a data processing system (the system) for implementing an investment structure which was developed for use in Signature's business as an administrator and accounting agent for mutual funds. In essence, the system, identified by the proprietary name Hub and Spoke®, facilitates a structure whereby mutual funds (Spokes) pool their assets in an investment portfolio (Hub) organized as a partnership. This investment configuration provides the administrator of a mutual fund with the advantageous combination of economies of scale in administering investments coupled with the tax advantages of a partnership.

State Street and Signature are both in the business of acting as custodians and accounting agents for multi-tiered partnership fund financial services. State Street negotiated with Signature for a license to use its patented data processing system described and claimed in the '056 patent. When negotiations broke down, State Street brought a declaratory judgment action asserting invalidity, unenforceability, and noninfringement in Massachusetts district court, and then filed a motion for partial summary judgment of patent invalidity for failure to

claim statutory subject matter under § 101. The motion was granted and this appeal followed.

DISCUSSION

On appeal, we are not bound to give deference to the district court's grant of summary judgment, but must make an independent determination that the standards for summary judgment have been met. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1560, 19 USPQ2d 1111, 1114 (Fed. Cir. 1991). Summary judgment is properly granted where there are no genuine issues of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c). The patent is invalid for failure to claim statutory subject matter under § 101, is a matter of both claim construction and statutory construction. "[W]e review claim construction *de novo* including any allegedly fact-based questions relating to claim construction." *Cybor Corp. v. F-AS Techs.*, 138 F.3d 1448, 1451, 46 USPQ2d 1169, 1174 (Fed. Cir. 1998) (*in banc*). We also review statutory construction *de novo*. See *Romero v. United States*, 38 F.3d 1204, 1207 (Fed. Cir. 1994). We hold that declaratory judgment plaintiff State Street was not entitled to the grant of summary judgment of invalidity of the '056 patent under § 101 as a matter of law, because the patent claims are directed to statutory subject matter.

The following facts pertinent to the statutory subject matter issue are either undisputed or represent the version alleged by the nonmovant. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). The patented invention relates generally to a system that allows an administrator to monitor and record the financial information flow and make all calculations necessary for maintaining a partner fund financial services configuration. As previously mentioned, a partner fund financial services configuration essentially allows several mutual funds, or "Spokes," to pool their investment funds into a single portfolio, or "Hub," allowing for consolidation of, inter alia, the costs of administering the fund combined with the tax advantages of a partnership. In particular, this system provides means for a daily allocation of assets for two or more Spokes that are invested in the same Hub. The system determines the percentage share that each Spoke maintains in the Hub, while taking into consideration daily changes both in the value of the Hub's investment securities and in the concomitant amount of each Spoke's assets.

In determining daily changes, the system also allows for the allocation among the Spokes of the Hub's daily income, expenses, and net realized and unrealized gain or loss, calculating each day's total investments based on the concept of a book capital account. This enables the determination of a true asset value of each Spoke and accurate calculation of allocation ratios between or among the Spokes. The system additionally tracks all the relevant data determined on a daily basis for the Hub and each Spoke, so that aggregate year end income, expenses, and capital gain or loss can be determined for accounting and for tax purposes for the Hub and, as a result, for each publicly traded Spoke.

It is essential that these calculations are quickly and accurately performed. In large part this is required because each Spoke sells shares to the public and the price of those shares is substantially based on the Spoke's percentage interest in the portfolio. In some instances, a mutual fund administrator is required to calculate the value of the shares to the nearest penny within as little as an hour and a half after the market closes. Given the complexity of the calculations, a computer or equivalent device is a virtual necessity to perform the task.

The '056 patent application was filed 11 March 1991. It initially contained six "machine" claims, which incorporated means-plus-function clauses, and six method claims. According to Signature, during prosecution the examiner contemplated a § 101 rejection for failure to claim statutory subject matter. However, upon cancellation of the six method claims, the examiner issued a notice of allowance for the remaining present six claims on appeal. Only claim 1 is an independent claim.

[1] The district court began its analysis by construing the claims to be directed to a process, with each "means" clause merely representing a step in that process. However, "machine" claims having "means" clauses may only be reasonably viewed as process claims if there is no supporting structure in the written description that corresponds to the claimed "means" elements. See *In re Appapal, 33 F.3d 1526, 1540-41, 31 USPQ2d 1543, 1554* (Fed. Cir. 1994) (*in banc*). This is not the case now before us.

When independent claim 1 is properly construed in accordance with § 112, ¶ 6, it is directed to a machine, as demonstrated below, where representative claim 1 is set forth, the subject matter in brackets stating the structure the written description discloses as corresponding to the respective "means" recited in the claims.

1. A data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising:

(a) computer processor means [a personal computer including a CPU] for processing data;

(b) storage means [a data disk] for storing data on a storage medium;

(c) first means [an arithmetic logic circuit configured to prepare the data disk to magnetically store selected data] for initializing the storage medium;

(d) second means [an arithmetic logic circuit configured to retrieve information from a specific file, calculate incremental increases or decreases based on specific input, allocate the results on a percentage basis, and store the output in a separate file] for processing data regarding assets in the portfolio and each of the funds from a previous day and data regarding increases or decreases in each of the funds, [sic, funds] assets and for allocating the percentage share that each fund holds in the portfolio;

(e) third means [an arithmetic logic circuit configured to retrieve information from a specific file, calculate incremental increases and decreases based on specific input, allocate the results on a percentage basis and store the output in a separate file] for processing data regarding daily incremental income, expenses, and net realized gain or loss for the portfolio and for allocating such data among each fund;

(f) fourth means [an arithmetic logic circuit configured to retrieve information from a specific file, calculate incremental increases and decreases based on specific input, allocate the results on a percentage basis and store the output in a separate file] for processing data regarding daily net unrealized gain or loss for the portfolio and for allocating such data among each fund; and

(g) fifth means [an arithmetic logic circuit configured to retrieve information from specific files, calculate that information on an aggregate basis and store the output in a separate file] for processing data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds.

Each claim component, recited as a "means" plus its function, is to be read, of course, pursuant to § 112, ¶ 6, as inclusive of the "equivalents" of the structures disclosed in the written description portion of the specification. Thus, claim 1, properly construed,

claims a machine, namely, a data processing system for managing a financial services configuration of a portfolio established as a partnership, which machine is made up of, at the very least, the specific structures disclosed in the written description and corresponding to the means-plus-function elements (a)-(g) recited in the claim. A "machine" is proper statutory subject matter under § 101. We note that, for the purposes of a § 101 analysis, it is of little relevance whether claim 1 is directed to a "machine" or a "process," as long as it falls within at least one of the four enumerated categories of patentable subject matter, "machine" and "process" being such categories.

This does not end our analysis, however, because the court concluded that the claimed subject matter fell into one of two alternative judicially-created exceptions to statutory subject matter. The court refers to the first exception as the "mathematical algorithm" exception and the second exception as the "business method" exception. Section 101 reads:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The plain and unambiguous meaning of § 101 is that any invention falling within one of the four stated categories of statutory subject matter may be patented, provided it meets the other requirements for patentability set forth in Title 35, i.e., those found in §§ 102, 103, and 112.¹

¹ Indeed, although we do not make this determination here, the judicially created exceptions, i.e., abstract ideas, laws of nature, etc., should be applicable to all categories of statutory subject matter, as our own precedent suggests. See *Alappat*, 33 F.3d at 1542, 31 USPQ2d at 1556; see also *In re Johnson*, 502 F.2d 765, 183 USPQ 172 (CCPA 1974) (Ritch, J., dissenting).

² As explained in *In re Bergy*, 569 F.2d 952, 960, 201 USPQ 352, 360 (CCPA 1979) (emphasis and footnote omitted):

The first door which must be opened on the difficult path to patentability is § 101. . . . The person approaching that door is an inventor, whether his invention is patentable or not. . . . Being an inventor or having an invention, however, is no guarantee of opening even the first door. What kind of an invention or discovery is it? In dealing with the question of kind, as distinguished from the qualitative conditions which make the invention patentable, § 101 is broad and general; its language is: "any process, machine, manufacture, or composition of matter, or any . . . improvement thereof." Section 100(b) further expands "process" to

The repetitive use of the expansive term "any" in § 101 shows Congress's intent not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in § 101. Indeed, the Supreme Court has acknowledged that Congress intended § 101 to extend to "anything under the sun that is made by man." *Diamond v. Chakrabarty*, 447 U.S. 303, 309 [206 USPQ 193] (1980); see also *Diamond v. Diehr*, 450 U.S. 175, 182 [209 USPQ 1] (1981). Thus, it is improper to read limitations into § 101 on the subject matter that may be patented where the legislative history indicates that Congress clearly did not intend such limitations. See *Chakrabarty*, 447 U.S. at 308 ("We have also cautioned that courts should not read into the patent laws limitations and conditions which the legislature has not expressed." (citations omitted)).

The "Mathematical Algorithm" Exception

The Supreme Court has identified three categories of subject matter that are unpatentable, namely "laws of nature, natural phenomena, and abstract ideas." *Diehr*, 450 U.S. at 185. Of particular relevance to this case, the Court has held that mathematical algorithms are not patentable subject matter to the extent that they are merely abstract ideas. See *Diehr*, 450 U.S. 175 [209 USPQ 1]; *passim*; *Parker v. Flook*, 437 U.S. 584 [198 USPQ 193] (1978); *Gottschalk v. Benson*, 409 U.S. 63 [175 USPQ 548] (1972). In *Diehr*, the Court explained that certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, i.e., "a useful, concrete and tan-

include "art or method, and . . . a new use of a known process, machine, manufacture, composition of matter, or material." If the invention, as the inventor defines it in his claims (pursuant to § 112, second paragraph), falls into any one of the named categories, he is allowed to pass through to the second door, which is § 102; "novelty and loss of right to patent" is the sign on it. Notwithstanding the words "new and useful" in § 101, the invention is not examined under that statute for novelty because that is not the statutory scheme of things or the long-established administrative practice.

³ The Committee Reports accompanying the 1952 Act inform us that Congress intended statutory subject matter to "include anything under the sun that is made by man." S. Rep. No. 82-1979 at 5 (1952); H.R. Rep. No. 82-1923 at 6 (1952).

gible result." *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557.

Unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not "useful." From a practical standpoint, this means that to be patentable an algorithm must be applied in a "useful" way. In *Alappat*, we held that data, transformed by a machine through a series of mathematical calculations to produce a smooth waveform display on a rasterizer monitor, constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced "a useful, concrete and tangible result"—the smooth waveform.

Similarly, in *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 958 F.2d 1053, 22 USPQ2d 1033 (Fed. Cir. 1992), we held that the transformation of electrocardiograph signals from a patient's heartbeat by a machine through a series of mathematical calculations constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it corresponded to a useful, concrete or tangible thing—the condition of a patient's heart.

[2] Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"—a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.

The district court erred by applying the Freeman-Walter-Abele test to determine whether the claimed subject matter was an unpatentable abstract idea. The Freeman-Walter-Abele test was designed by the Court of Customs and Patent Appeals, and subsequently adopted by this court, to extract and identify unpatentable mathematical algorithms in the aftermath of *Benson* and *Flook*. See *In re Freeman*, 573 F.2d 1237, 197 USPQ 464 (CCPA 1978) as modified by *In re Walter*, 618 F.2d 758, 205

USPQ 397 (CCPA 1980). The test has been thus articulated:

Whether the claim is analyzed to determine if a mathematical algorithm is directly or indirectly recited. Next, if a mathematical algorithm is found, the claim as a whole is further analyzed to determine whether the algorithm is "applied in any manner to physical elements or process steps," and, if it is, it "passes muster under § 101."

In re Pardo, 684 F.2d 912, 915, 214 USPQ 673, 675-76 (CCPA 1982) (citing *In re Abele*, 684 F.2d 902, 214 USPQ 682 (CCPA 1982)).

[3] After *Diehr* and *Chakrabarty*, the Freeman-Walter-Abele test has little, if any, applicability to determining the presence of statutory subject matter. As we pointed out in *Alappat*, 33 F.3d at 1543, 31 USPQ2d at 1557, application of the test could be misleading, because a process, machine, manufacture, or composition of matter employing a law of nature, natural phenomenon, or abstract idea is patentable subject matter even though a law of nature, natural phenomenon, or abstract idea would not by itself, be entitled to such protection.⁴ The

³ The test has been the source of much confusion. In *In re Abele*, 684 F.2d 902, 214 USPQ 682 (CCPA 1982), the CCPA upheld claims applying "a mathematical formula within the context of a process which encompasses significantly more than the algorithm alone." *Id.* at 909. Thus, the CCPA apparently inserted an additional consideration—the significance of additions to the algorithm. The CCPA appeared to abandon the application of the test in *In re Taner*, 681 F.2d 787, 214 USPQ 678 (CCPA 1982), only to subsequently "clarify" that the Freeman-Walter-Abele test was simply not the exclusive test for detecting unpatentable subject matter. *In re Meyer*, 688 F.2d 789, 796, 215 USPQ 193, 199 (CCPA 1982).

⁴ See e.g., *Parker v. Flook*, 437 U.S. 584, 590 [198 USPQ 193] (1978) ("[A] process is not unpatentable simply because it contains a law of nature or a mathematical algorithm."); *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 [176 USPQ 282] (1948) ("He who discovers a hitherto unknown phenomenon of nature has no claim to a monopoly of it which the law recognizes. If there is to be invention from such a discovery, it must come from the application of the law to a new and useful end."); *Mackay Radio & Tel. Co. v. Radio Corp. of Am.*, 306 U.S. 86, 94 [40 USPQ 199] (1939) ("While a scientific truth, or the mathematical expression of it, is not a patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be.")

⁵ This has come to be known as the mathematical algorithm exception. This designation has led to some confusion, especially given the Freeman-Walter-Abele analysis. By keeping in mind that the mathematical algorithm is unpatentable only to the extent that it represents an abstract idea, this confusion may be ameliorated.

test determines the presence of, for example, an algorithm. Under *Benson*, this may have been a sufficient indicium of nonstatutory subject matter. However, after *Diehr* and *Alappat*, the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter, unless, of course, its operation does not produce a "useful, concrete and tangible result." *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557. After all, as we have repeatedly stated, every step-by-step process, be it electronic or chemical or mechanical, involves an algorithm in the broad sense of the term. Since § 101 expressly includes processes as a category of inventions which may be patented and § 100(b) further defines the word "process" as meaning "process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material," it follows that it is no ground for holding a claim is directed to nonstatutory subject matter to say it includes or is directed to an algorithm. This is why the proscriptive against patenting has been limited to mathematical algorithms. . . .

In re Iwahashi, 888 F.2d 1370, 1374, 12 USPQ2d 1908, 1911 (Fed. Cir. 1989) (emphasis in the original).

a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e.g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.

Diehr, 450 U.S. at 192; see also *In re Iwahashi*, 888 F.2d 1370, 1375, 12 USPQ2d 1908, 1911 (Fed. Cir. 1989); *Taner*, 681 F.2d at 789, 214 USPQ at 680. The dispositive inquiry is whether the claim as a whole is directed to statutory subject matter. It is irrelevant that a claim may contain, as part of the whole, subject matter which would not be patentable by itself. "A claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, computer program or digital computer." *Diehr*, 450 U.S. at 187.

As the Supreme Court expressly stated in *Diehr*, its own holdings in *Benson* and *Flook* "stand for no more than these long-established principles" that abstract ideas and natural phenomena are not patentable. *Diehr*, 450 U.S. at 185 (citing *Chakrabarty*, 447 U.S. at 309 and *Funk Bros.*, 333 U.S. at 130).

In re Pardo, 684 F.2d 912, 214 USPQ 673 (CCPA 1982), the CCPA narrowly limited "mathematical algorithm" to the execution of formulas with given data. In the same year, in *In re Meyer*, 688 F.2d 789, 215 USPQ 193 (CCPA 1982), the CCPA interpreted the same term to

[4] The question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to — process, machine, manufacture, or composition of matter — but rather on the essential characteristics of the subject matter, in particular, its practical utility. Section 101 specifies that statutory subject matter must also satisfy the other "conditions and requirements" of Title 35, including novelty, nonobviousness, and adequacy of disclosure and notice. See *In re Warner*, 33 F.3d 1354, 1359, 31 USPQ2d 1754, 1757-58 (Fed. Cir. 1994). For purpose of our analysis, as noted above, claim 1 is directed to a machine programmed with the Hub and Spoke software and admittedly produces a "useful, concrete, and tangible result." *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557. This renders it statutory subject matter, even if the useful result is expressed in numbers, such as price, profit, percentage, cost, or loss.

The Business Method Exception

[5] As an alternative ground for invalidating the '056 patent under § 101, the court relied on the judicially-created, so-called "business method" exception to statutory subject matter. We take this opportunity to lay this ill-conceived exception to rest. Since its inception, the "business method" exception has merely represented the application of some general, but no longer applicable legal principle, perhaps arising out of the "requirement for invention" — which was eliminated by § 103. Since the 1952 Patent Act, business methods have been, and should have been, subject to the same legal requirements for patentability as applied to any other process or method.¹⁰

include any mental process that can be represented by a mathematical algorithm. This is also the position taken by the PTO in its Examination Guidelines, 61 Fed. Reg. 7478, 7483 (1996).

*Of course, the subject matter must fall into at least one category of statutory subject matter.

[The business method exception] is . . . an unwarranted encumbrance to the definition of statutory subject matter in section 101, that [should] be discarded as error-prone, redundant, and obsolete. It merits retirement from the glossary of section 101. . . . All of the "doing business" cases could have been decided using the clearer concepts of Title 35. Patentability does not turn on whether the claimed method does "business" instead of something else, but on whether the method, viewed as a whole, meets the requirements of patentability

Maucorps dealt with a business methodology for deciding how salesmen should best handle respective customers and *Meyer* involved a "system" for aiding a neurologist in diagnosing patients. Clearly, neither of the alleged "inventions" in those cases falls within any § 101 category.

Alappat, 33 F.3d at 1541, 31 USPQ2d at 1555. However, closer scrutiny of these cases reveals that the claimed inventions in both *Maucorps* and *Meyer* were rejected as abstract ideas under the mathematical algorithm exception, not the business method exception. See *In re Maucorps*, 609 F.2d 481, 484, 203 USPQ 812, 816 (CCPA 1979); *In re Meyer*, 688 F.2d 789, 796, 215 USPQ 193, 199 (CCPA 1982).

Even the case frequently cited as establishing the business method exception to statutory subject matter, *Hotel Security Checking Co. v. Lorraine Co.*, 160 F.467 (2d Cir. 1908), did not rely on the exception to strike the patent.¹¹ In that case, the patent was found invalid for lack of novelty and "invention," not because it was improper subject matter for a patent. The court stated "the fundamental principle of the system is as old as the art of bookkeeping, i.e., charging the

¹⁰ Moreover, these cases were subject to the *Benson* era Freeman-Walter-Abele test — in other words, analysis as it existed before *Diehr* and *Alappat*.

¹¹ See also *Loew's Drive-In Theatres v. Park-In Theatres*, 174 F.2d 547, 552 [81 USPQ 149] (1st Cir. 1949) (holding that the means for carrying out the system of transacting business lacked "an exercise of the faculty of invention"); *In re Patton*, 127 F.2d 324, 327-38 [53 USPQ 376] (CCPA 1942) (finding claims invalid as failing to define patentable subject matter over the references of record); *Bradford v. Tucci*, 190 F.329, 332 (C.C.S.D.N.Y. 1911); *In re Watt*, 73 F.2d 982, 983 [24 USPQ 88] (CCPA 1934) ("[S]urely these are, and always have been, essential steps in all dealings of this nature, and even conceding, without holding, that some methods of doing business might present patentable novelty, we think such novelty is lacking here."); *In re Howard*, 157 USPQ 615, 617 (CCPA 1968) ("[W]e therefore affirm the decision of the Board of Appeals on the ground that the claims do not define a novel process [so we find it] unnecessary to consider the issue of whether a method of doing business is inherently unpatentable."); *Al-Pattou*, 127 F.2d 324, 327, 53 USPQ 376, 379 (CCPA 1942) that a system for transacting business, separate from the means for carrying out the system, is not patentable subject matter, the jurisprudence does not require the creation of a distinct business class of unpatentable subject matter.

as set forth in Sections 102, 103, and 112 of the Patent Act.

In re Schrader, 22 F.3d 290, 298, 30 USPQ2d 1455, 1462 (Fed. Cir. 1994) (Newman, J., dissenting).

"See *Rinaldo Del Gallo, III, Are 'Methods of Doing Business' Finally out of Business as a Statutory Rejection?*, 38 IDEA 403, 435 (1998)."
¹² See also *Dann v. Johnston*, 425 U.S. 219 [189 USPQ 257] (1976) (the Supreme Court declined to discuss the section 101 argument concerning the computerized financial record-keeping system, in view of the Court's holding of patent invalidity under section 103); *In re Chai*, 545 F.2d 132, 157, 191 USPQ 730, 735 (CCPA 1976) (Ex. *Pat. App.*, 9 USPQ2d 1819, 1820 (Bd. Pat. App. & Interf. 1988)).
¹³ [T]he claimed accounting method [requires] no more than the entering, sorting, debiting, and totaling of expenditures as necessary preliminary steps to issuing an expense analysis statement. . . . states grounds of obviousness or lack of novelty, not of non-statutory subject matter.

"Any historical distinctions between a method of 'doing' business and the means of carrying it out blur in the complexity of modern business systems. See *Paine, Webber, Jackson & Curtis v. Merrill Lynch*, 564 F. Supp. 1358, 218 USPQ 212 (D. Del. 1983), (holding a computerized system of cash management was held to be statutory subject matter.)"

goods of the employer to the agent who takes them." *Id.* at 469. "If at the time of [the patent] application, there had been no system of bookkeeping of any kind in restaurants, we would be confronted with the question whether a new and useful system of cash registering and account checking is such an art as is patentable under the statute." *Id.* at 472.

[6] This case is no exception. The district court announced the precepts of the business method exception as set forth in several treatises, but noted as its primary reason for finding the patent invalid under the business method exception as follows:

If Signature's invention were patentable, any financial institution desirous of implementing a multi-tiered funding complex modelled (sic) on a Hub and Spoke configuration would be required to seek Signature's permission before embarking on such a project. *This is so because the '056 Patent is claimed [sic] sufficiently broadly to foreclose virtually any computer-implemented accounting method necessary to manage this type of financial structure.*

927 F. Supp. 502, 516, 38 USPQ2d 1530, 1542 (emphasis added). Whether the patent's claims are too broad to be patentable is not to be judged under § 101, but rather under §§ 102, 103 and 112. Assuming the above statement to be correct, it has nothing to do with whether what is claimed is statutory subject matter.

In view of this background, it comes as no surprise that in the most recent edition of the Manual of Patent Examining Procedures (MPEP) (1996), a paragraph of § 706.03(a) was deleted. In past editions it read:

Though seemingly within the category of process or method, a method of doing business can be rejected as not being within the statutory classes. See *Hotel Security Checking Co. v. Lorraine Co.*, 160 F. 467 (2d Cir. 1908) and *In re Wall*, 24 USPQ 88, 22 CCPA 822 (1934).

MPEP § 706.03(a) (1994). This acknowledgment is buttressed by the U.S. Patent and Trademark 1996 Examination Guidelines for Computer Related Inventions which now read:

Office personnel have had difficulty in properly treating claims directed to methods of doing business. Claims should not be categorized as methods of doing business. Instead such claims should be treated like any other process claims.

Examination Guidelines, 61 Fed. Reg. 7478, 7479 (1996). We agree that this is precisely the manner in which this type of claim should be treated. Whether the claims are

directed to subject matter within § 101 should not turn on whether the claimed subject matter does "business" instead of something else.

CONCLUSION

The appealed decision is reversed and the case is remanded to the district court for further proceedings consistent with this opinion.

REVERSED and REMANDED.

U.S. Court of Appeals
Third Circuit

Iberia Foods Corp. v. Romeo

No. 97-5424

Decided July 30, 1998

TRADEMARKS AND UNFAIR TRADE PRACTICES

1. Infringement; conflicts between marks — Likelihood of confusion — Particular marks — Confusion not likely (\$335.0304.05)

International issues — Foreign imports — "Gray market" and parallel imports (\$370.0303)

Plaintiff trademark holder's quality inspections are insufficient to create material difference between plaintiff's inspected "Mistolin" cleaning products, obtained directly from Puerto Rican manufacturer, and defendant's uninspected "Mistolin" products, purchased from distributors in Puerto Rico, since, by limiting its inspection to "self-evident" defects, plaintiff does no more than "weed out" those bottles of "Mistolin" that are entirely unsalable on open market, and since bottles so obviously defective as to be unmarketable are not likely to reach consumers in any event; limited scope of inspection performed by plaintiff distinguishes present case from others in which trademark owner's quality control mechanism reflected deliberate effort to ensure that quality of product matched high standards set by trademark owner.

2. Infringement; conflicts between marks — Likelihood of confusion — Particular marks — Confusion not likely (\$335.0304.05)

Defendant is entitled to summary judgment on federal trademark infringement

claim, since there is no material difference between "Mistolin" cleaning products sold by plaintiff and "Mistolin" products sold by defendant, and defendant's products are therefore "genuine" under Lanham Act's Section 32, 15 USC 1114, since buyers of defendant's "Mistolin" products get precisely what they believe they are purchasing, and since defendant's sales therefore do not harm goodwill associated with "Mistolin" products.

Appeal from the U.S. District Court for the District of New Jersey, Bassler, J.

Action by Iberia Foods Corp. against Rolando Romeo Jr. d/b/a Rol-Rom Foods for trademark and service mark infringement, and unfair competition. From grant of summary judgment for plaintiff on its federal trademark infringement count, defendant appeals. Reversed and remanded.

John G. Giffillan III and Kenneth L. Winters of Carella, Byrne, Bain, Giffillan, Cecchi, Steward & Olstein, Roseland, N.J., for plaintiff-appellee.

Stephen L. Baker, Somerville, N.J., for defendant-appellant.

Before Alito, Rendell, and Garth, circuit judges.

Garth, J.

This is a trademark action brought by Iberia Foods against Rolando Romeo, Jr. and his company, Rol-Rom Foods (collectively, "Rol-Rom"), to enjoin Rol-Rom's sale of household cleaning products under the *Mistolin* trademark owned by Iberia. The district court granted summary judgment in favor of Iberia, and Rol-Rom has appealed. Because the *Mistolin* products sold by Rol-Rom are "genuine" under Section 32 of the Lanham Act, 15 U.S.C. § 1114, we will reverse.

I.

Iberia Foods is a Brooklyn-based wholesale distributor of grocery store products that owns the United States trademark to *Mistolin* household cleaners. The line of *Mistolin* products includes soaps, tile cleaners, and laundry detergents, and is offered for sale at grocery stores and supermarkets both in Puerto Rico and in certain metropolitan areas in the United States for a few dollars a bottle.

Mistolin products are manufactured exclusively in Puerto Rico by Mistolin Caribe, Inc. ("Caribe"). In addition to selling *Mistolin* to Iberia for resale in the United States, Caribe markets *Mistolin* directly to distributors in Puerto Rico for resale in the Puerto Rican market. Although both Iberia and Caribe sell *Mistolin* products, the two companies service entirely separate markets: Caribe sells *Mistolin* only in Puerto Rico to Puerto Rican distributors, and Iberia sells *Mistolin* only in the continental United States.

The business arrangement between Iberia and Caribe dates back to 1988, when Iberia acquired the United States trademark to *Mistolin* from Caribe's parent company, Mistolin Dominicana, C.A. ("Dominicana"). Although the legal effect of the 1988 agreement is disputed, its terms granted Iberia "all the rights, title and interest in and to [the *Mistolin*] trademark insofar as they relate to the United States." In exchange for ownership of the *Mistolin* trademark, Iberia agreed to purchase *Mistolin* exclusively from Caribe.

The defendant in this case, Rol-Rom Foods, is a New Jersey-based distributor of household cleaning products that purchases *Mistolin* products on the open market in Puerto Rico and sells them in New York and New Jersey. Although Rol-Rom has never purchased *Mistolin* products directly from Caribe, it is undisputed that the *Mistolin* sold by Rol-Rom was originally sold by Caribe for resale in the Puerto Rico market. By obtaining *Mistolin* in Puerto Rico and selling it in New York without Iberia's involvement, Rol-Rom has been able to offer *Mistolin* for sale in direct competition with Iberia at a substantial discount from Iberia's price.

II.

In April 1993, Iberia filed a four count complaint against Rol-Rom seeking injunctive relief and damages. The principal count in the complaint alleged that Rol-Rom's sale of *Mistolin* products constituted infringement of Iberia's trademark in violation of § 32 of the Lanham Act, codified at 15 U.S.C. § 1114.¹ Rol-Rom's answer denied that it

¹ Although Caribe is technically a subsidiary of Dominicana, for the sake of simplicity we will refer to Caribe rather than Dominicana when discussing the 1988 agreement. This substitution has no effect on our resolution of this appeal.

² The remaining counts against Rol-Rom alleged violations of common law trademark and service mark infringement, common law unfair competition, and New Jersey statutory unfair competition under N.J.S.A. 56:4-1.

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